

# Quick Start Guide

## Dionex Inuvion IC system with RFIC

Use this quick start guide to get your Thermo Scientific™ Dionex™ Inuvion™ IC system with RFIC up and running quickly and easily.

### IC tubing connections, priming and system rinse

1. Confirm the pump is turned off.
2. Connect the pump eluent line to a bottle containing 18 MΩ-cm resistivity or better ASTM Type I deionized (DI) water.
3. Prime the pump by opening the priming knob ¼ turn and selecting **Prime** on the Thermo Scientific™ Chromeleon™ Chromatography Data System (CDS) ePanel.
4. Wait until no bubbles are visible and water is flowing at a steady rate out of the pump waste line. Turn off the pump.
5. Close the priming knob to finger tight.
6. Turn on the pump, set the flow rate to 1 mL/min, and flush the system with DI water for an hour. Turn off the pump.
7. If using manually prepared eluent, degas the eluent offline, then connect the pump eluent line to the bottle containing degassed eluent. Repeat priming steps 3-5.
8. Turn on the pump, set the flow rate to 1 mL/min, and flush the system for about 30 minutes.

### Eluent generation: RFIC conditioning

1. To condition the eluent generator cartridge (EGC) before first use, remove the storage plugs from the IN and OUT ports and firmly tap the cartridge several times to dislodge bubbles.
2. Connect the pump outlet tubing to the EGC IN port.
3. Connect the backpressure restrictor tubing/coil (min. backpressure of 2000 psi) to the OUT port, directing the other end of the tubing to waste.
4. Remove the plug from the top of EGC and replace it with the vent assembly.
5. Connect the EGC power cable to the EGC power port.
6. Pump DI water at 1 mL/min for 10 minutes, then 50 mM eluent for another 30 minutes.
7. Disconnect the backpressure tubing, and connect EGC OUT to the continuously regenerated trap column (CR-TC) ELUENT IN.

## Suppressor and column installation and conditioning

1. The columns must be placed so that the guard column is before the analytical column, and the flow direction follows the column label arrows.
2. When installing a new IC column, after connecting the inlet of the column, direct the outlet of the column directly to waste. Pump eluent through the column at the standard flow rate for the column for at least 30 minutes before connecting to the suppressor. This prevents any storage solution or column residuals from flowing to the suppressor and expedites system equilibration time.
3. If the suppressor is not installed and connected to the system, the suppressor will need to be hydrated before use and then installed.
4. To hydrate an electrolytic suppressor, connect the tubing from the separator column to the ELUENT IN port on the suppressor, and connect the suppressor ELUENT OUT tubing to the REGEN IN port using the appropriate short tubing pieces. Connect the REGEN OUT to waste.
5. Prepare and pump 2 mM eluent at 0.2 mL/min (4 mm) or 0.1 mL/min (2 mm) for 10 minutes. **Note: The power to the suppressor must be off during this step;** take care to not to exceed 100 psi of backpressure on the suppressor. The backpressure to the suppressor includes any tubing, cell, and backpressure coils connected to the ELUENT OUT port of the suppressor.
6. Increase the flow rate to 0.5 mL/min (4 mm) or 0.125 mL/min (2 mm) for an additional 20 min.
7. Connect the suppressor ELUENT OUT to the conductivity cell (CD) INPUT.
8. For recycle mode, connect CD OUTPUT to suppressor REGEN IN. Connect the suppressor REGEN OUT to waste or to CR-TC REGEN IN if using RFIC.
9. If using external water mode, you will need to supply DI water at approximately double the eluent flow rate into the suppressor REGEN IN port.
10. After completion of the above steps, resume normal operation using the correct application eluent strength and suppressor current recommendation.

## Preparing to run the system

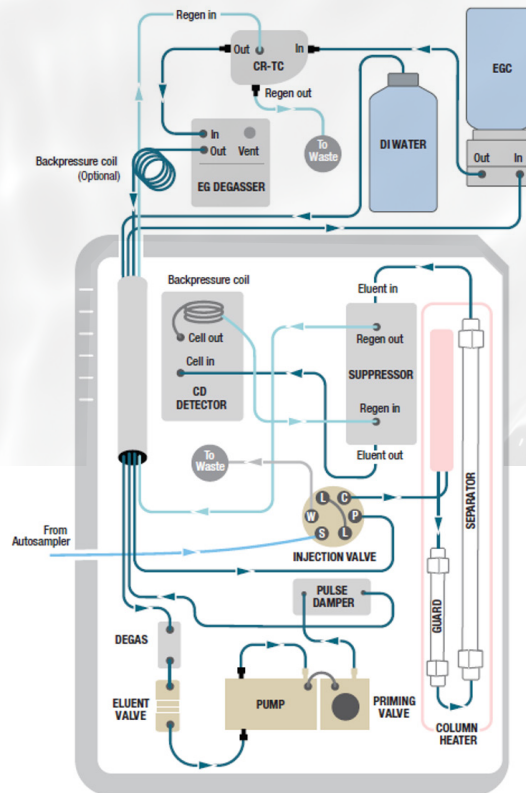
1. Use the eluent indicated for your method. Place the eluent line into the eluent bottle and start the pump at the flow rate prescribed in your method.
2. Equilibrate the system for 30-60 min. Monitor the baseline until the background conductivity is  $<5 \mu\text{S/cm}$  (hydroxide) or  $<25 \mu\text{S/cm}$  (carbonate) on a system set up for anion analysis or  $<2 \mu\text{S/cm}$  for cation analysis.
3. Start a sequence in Chromeleon CDS.

# Dionex Inuvion RFIC Components



- 1 Digital pressure regulator (optional)
- 2 Conductivity cell
- 3 Tubing chase (to waste)
- 4 Tubing chase (to eluent organizer)
- 5 Auxiliary valve (optional)
- 6 Seal wash pump (optional)
- 7 Pump
- 8 Leak sensor
- 9 Injection valve
- 10 Column heater (optional)
- 11 Suppressor
- 12 RFIC eluent degasser
- 13 CR-TC
- 14 EG cartridge (behind bottle)
- 15 Eluent monitor (optional)

# Dionex Inuvion RFIC Flow schematic



Learn more at [thermofisher.com/inuvionsupport](https://thermofisher.com/inuvionsupport)